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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,606

06/20/2006

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023174-0169

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EXAMINER

TRUONG, DUC

ART UNIT

PAPER NUMBER

1765

MAIL DATE

DELIVERY MODE

05/23/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,606	<b>Applicant(s)</b> SASAKI ET AL.	
	<b>Examiner</b> DUC TRUONG	<b>Art Unit</b> 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 05/02/11.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/02/11 has been entered.

The election in the last Office action has been carried over in that Applicant elects group I, claims 1-2 and 4-9 with a combination of formulae (2a) and (2b) as the elected species. In the case if the claims with the elected species are in condition for allowance, then the search is expanded to non-elected species including formula (5) in claim 3, and claims 10-20 will be rejoined and be allowed also.

Claims 1-2, 4-9 with the elected species are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US2003/0096149 of record on 1449.

The reference discloses a solid polymer electrolyte membrane used in fuel cell, in that an electromotive force is obtained by providing a pair of electrodes on both sides, of a proton conductive solid polymer electrolyte membrane, supplying hydrogen gas obtained by a low MW hydrocarbon such as methanol to one of the electrodes (a hydrogen electrode) as a fuel gas [0001]; [0003].

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Note that the polymer electrolyte comprising a polyether ether sulfone that is used as an electrolyte and has sulfoalkyl group bonded to its aromatic rings (see Abstract), which is represented by the formula (2)[0054-0061], corresponding to the claimed formula (2a) whereas  $p=0$ , to have the ion exchange group equivalent wt of 250 to 2,500 g/eq. Wt which can be varied as desired [0070-0071], by varying the blending ratio of an aromatic hydrocarbon polymer to a sulfoalkylating agent, the reaction temperature, the reaction time, solvent for reaction---[0072].

Note also that in the absence of a sulfoalkylating agent, the repeating unit of the claimed formula (2b) would be present, as required in the claims.

Note also that Figure 14 discloses the operation time vs voltage, the result test on a single cell of fuel cell obtained by using the assembly of the perfluorocarbon sulfonic acid solid polymer electrolyte membrane and electrodes [0476-0521].

The disclosure of the reference differs from the instant claims in that it does not disclose the equation in claim 1.

However, the instant claims are included in the broad teachings of the reference, as stated above. In view of this similarity, the equation in claim 1 must be considered inherent in the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUC TRUONG whose telephone number is (571)272-1081. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duc Truong/  
Primary Examiner, Art Unit 1765